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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/018,098

12/11/2001

Lutz Fink

FINK-1 (PCT)

7202

25889

7590

10/20/2004

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EXAMINER

RAO, SHRINIVAS H

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 10/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/018,098

**Applicant(s)**

FINK, LUTZ

**Examiner**

Steven H. Rao

**Art Unit**

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 12-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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***Response to Amendment***

Applicants' amendment filed on July 16, 2004 has been entered on August 03, 2004.

Therefore claims 12-20 as amended by the amendment and claim 21 presently newly added are currently pending in the Application.

Claim 11 has been cancelled by the amendment and claims 1-10 were previously cancelled.

***Drawings***

The substitute drawings (sheet 2) were received on July 16, 2004. These drawings are acceptable.

***Information Disclosure Statement***

No IDS have been filed to date in the instant Application.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Schiebel et al. ( U.S. Patent No. 5,396,072, herein after Scheibel).

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With respect to claim 21, Schiebel describes a semiconductor sensor for direct detection of electrons with a pixel structure in which a capacitance is designed to each pixel that stores a charge and converts the charge into a readable voltage, the sensor comprising: a conductive layer substantially covering the pixel structure and comprising a plurality of pixel surface coatings, (Schiebel figure 2 b #11, etc.) wherein each pixel surface coating covers an individual pixel ( Schiebel figures ) and each pixel surface coating is separated from each adjoining pixel surface coating by a gap; ( Schiebel figure 2 b /3b) a second conductive layer covering a surface of the gap separating the pixel surface coatings; ( eg. fig. 3b #14) and an insulation between the pixel surface coatings and the second conductive layer. ( fig. 3b # 13).

It is noted that the recitation , “ in which a capacitance is designed to each pixel that stores the charge and converts it into voltage “ is taken to be an intended use recitation and it is well settled law “ it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations.” Ex parte Masham , 2 USPQ 1647 ( 1987) .

Secondly it is noted that every capacitor by definition is designed to store a charge and convert it to voltage. It is an inherent function of every capacitor to store charge and convert it to voltage when desired.

Similarly, the recitation, “sensor is designed for direct detection of electrons and that` gaps (22) are assembled between the pixel surface coating “ is taken to be an

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intended use recitation and therefore does not distinguish over the prior art showing the same apparatus.

With respect to claim 12, Schiebel describes a Semiconductor sensor according to claim 21, wherein the pixel surface coatings and the second conductive layer consisting of metal or any other conductive, light impervious material. ( Schiebel col. 5 lines 2, it is noted that metal are well known opaque conductors).

With respect to claim 13 Schiebel describes a Semiconductor sensor according to claim 12, wherein the pixel surface coatings and the second conductive layer consisting of aluminum. (Schiebel col. 5 line 26 gold or Aluminum)

With respect to claim 14 Schiebel describes Semiconductor sensor according to claim 21, wherein the second conductive layer being designed as capacitor electrode. ( Schiebel col. 1 line 36 # 11 collecting electrodes).

With respect to claim 15 Schiebel describes a Semiconductor sensor according to claim 21, characterized by a potential being applied to the second conductive layer. (Schiebel col. 1 lines 39-42 , potential applied to electrode 11).

With respect to claim 16 Schiebel describes a Semiconductor sensor according to claim 21, characterized by the detection surface of the sensor being provided with an electron intensifying coating ( Scheibel col. 5 lines 30-45) and transit channels to the pixel surfaces being intended. ( Scheibel , figures 1,4).

With respect to claim 17 Schiebel describes a semiconductor sensor according to claim 16, characterized by the electron intensifying coating (5) being provided with a conductive thin layer each on the upper and lower side, to which a electric potential is

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applied. ( Schiebel photosensitive layer 3 covered on top by thin conductive film 4 on top and 11 on bottom).

With respect to claim 18 to the extent understood, describes a semiconductor sensor according to claim 21, characterized by neighboring pixel surfaces (11) having different potential. ( Scheibel col. 5 lines 50 to col. 6 line 24) .

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

B. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schiebel et al. ( U.S. Patent No. 5,396,072, herein after Schiebel) as applied to claims 1- 18 above and in view of . Bierig et al. ( U.S. Patent No. 3,902,095, herein after Bierig).

It is noted that claims 19 and 20 describe use and for reasons stated under claim 11, the law stated by Ex parte Masham is also applicable here it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be

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employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations." Ex parte Masham , 2 USPQ 1647 ( 1987) .

With respect to claim 19, Scheiel describes the use of a semiconductor sensor according to claim 21, ( Scheibel Abstract line 15) .

Scheibel does not specifically mention the sensor being assembled in a vacuum system with photo cathode which converts photons into electrons in an image orientated way.

Bierig in col. 2 lines 59-62 describes the use of vacuum (electron beam semiconductor ) tube and cathodes which converts photons into electrons in an image orientated way to be used in high power and broadband applications with improved frequency response characteristics.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to include Bierig's vacuum system with photo cathode which converts photons into electrons in an image orientated way in Schiebel's device so that the device can be used in high power and broadband applications with improved frequency response characteristics. ( Bierig col. 2 lines 58-61 and col.1 lines 63-65) .

With respect to claim 20 Schiebel describes the device according to claim 19, the vacuum system being equipped with one or more multi channel plates for the intensification of the electron flow. ( Bierig col. 4 lines 20-27).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Steven H. Rao whose telephone number is (571) 272-

***Response to Arguments***

Applicant's arguments with respect to claims 12-20 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Steven H. Rao whose telephone number is (571) 272-1718. The examiner can normally be reached on Monday- Friday from approximately 7:00 a.m. to 5:30 p.m.



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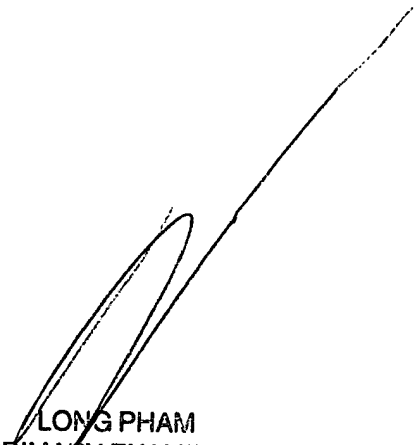
Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-0956. The Group facsimile number is (571) 872-9306.



Steven H. Rao

Patent Examiner

October 12, 2004.



LONG PHAM  
PRIMARY EXAMINER